

Montana Department of Natural Resources and Conservation  
Water Resources Division  
Water Rights Bureau

**ENVIRONMENTAL ASSESSMENT**  
**For Routine Actions with Limited Environmental Impact**

**Part I. Proposed Action Description**

1. Applicant/Contact name and address:

Applicant:

Murphys Ox Yoke Ranch LP  
Sean Murphy  
PO Box 1693  
Emigrant, MT 59027-1693

Attorney:

Pat Byorth, Montana Water Director, Western Water and Habitat Project  
Montana Trout Unlimited  
321 E Main St, Suite 411  
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2. Type of action: Combined Application for Beneficial Water Use Permit 43B 30066938 and Changes 43B 30110234 and 43B 30110235. The Applicant proposes to use groundwater from a well to irrigate 14 acres and proposes to change the purpose of water rights 43B 193524-00, 43B 193532-00, and 43B 193540-00 to mitigation to avoid adverse effects.

3. Water source name:

- Permit 43B 30066938: Groundwater
- Change 43B 30110234
  - Claim 43B 193524-00: Unnamed Surface Water Tributary of Yellowstone River (a.k.a., Murphy Spring)
  - Claim 43B 193532-00: Unnamed Surface Water Tributary of Yellowstone River (a.k.a., Murphy Spring)
- Change 43B 30110235
  - Claim 43B 193540-00: Fridley Creek

4. Location affected by project: Section 33, T5 S, R8 E, Park County. See Figure 1 for an overview map.

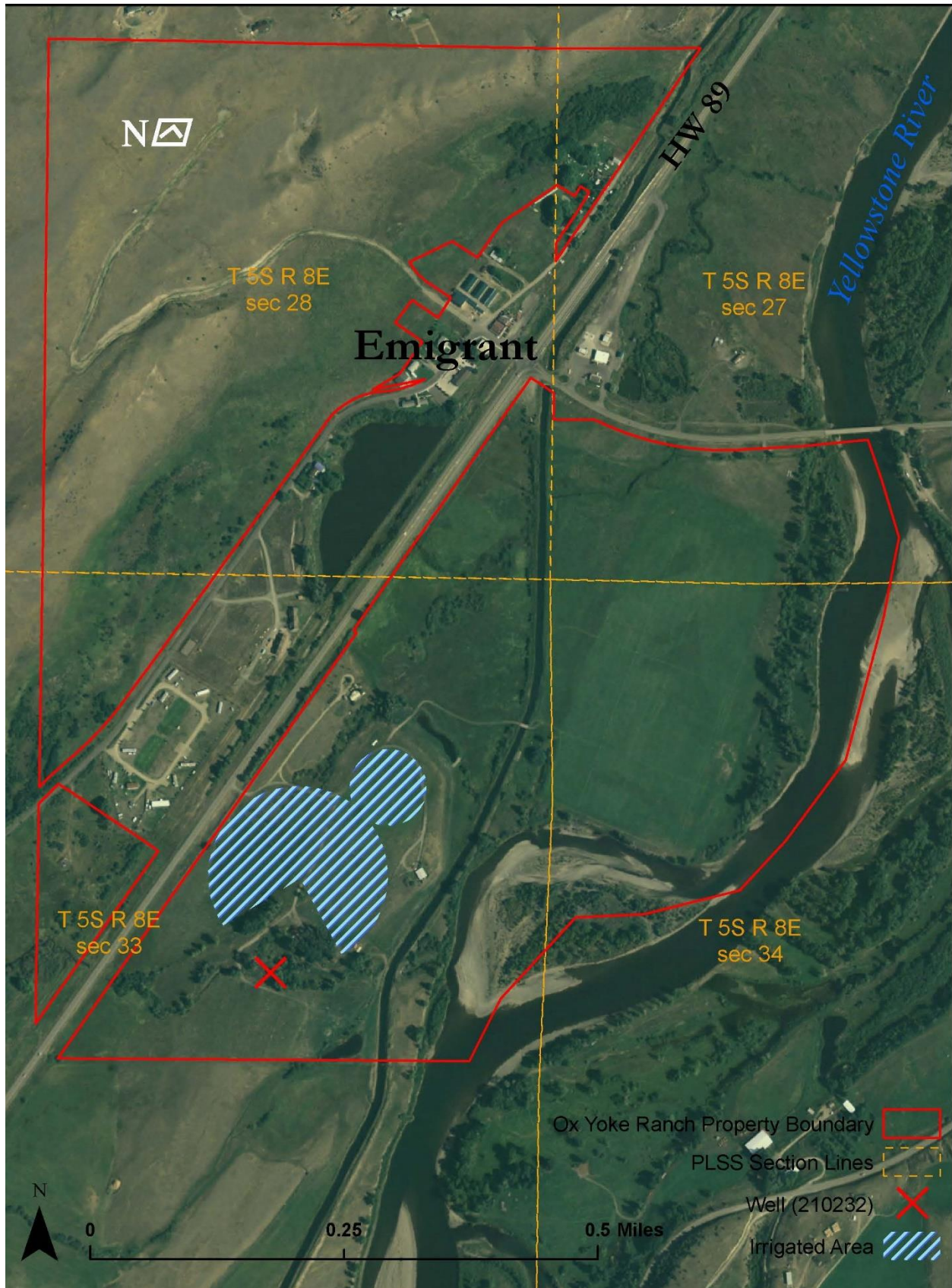


Figure 1: Overview map of the project area, from the application materials.

5. Narrative summary of the proposed project, purpose, action to be taken, and benefits:

Under permit 43B 30066938, the applicant proposes to divert groundwater from a well, located in the SESWNE of Section 33, for irrigation of 14 acres of pasture in the NE of Section 33, both T5 S, R8 E, Park County. The applicant proposes to divert 200 GPM up to 45.08 AF per annum from May 1 to September 30. The Department's analysis determined that depletions from the permit would affect the Yellowstone River.

Change 43B 30110234 proposes to change the purpose of 43B 193524-00 and 43B 193532-00 to mitigation to offset depletions to surface water. Change 43B 30110235 proposes to change the purpose of 43B 193540-00 to mitigation to offset depletions to surface water. Under both change applications, the applicant proposes to change a total of 6.46 AF of water to a mitigation purpose. Under 43B 193524-00, 2.88 AF of water will be applied to a wetland mitigation cell. Under 43B 193532-00 and 43B 193540-00, a combined 3.58 AF per annum of water will be left in Murphy Spring and Fridley Creek, respectively.

The Department shall issue a permit if the Applicant proves the criteria in §85-2-311, MCA, are met. The Department shall issue a change authorization if the Applicant proves the criteria in §85-2-402, MCA, are met.

6. Agencies consulted during preparation of the Environmental Assessment:

- Montana Department of Fish, Wildlife & Parks (FWP) – FishMT
  - <http://fwp.mt.gov/fish/>
- Montana Department of Environmental Quality (DEQ) – Clean Water Act Information Center (CWAIC)
  - <http://deq.mt.gov/wqinfo/CWAIC/default.mcpix>
- Montana National Heritage Program (MTNHP) – Species of Concern:
  - <http://mtnhp.org/SpeciesOfConcern>
- U.S. Fish & Wildlife Service (USFWS) – National Wetlands Inventory Wetlands Mapper
  - <http://www.fws.gov/wetlands/Data/Mapper.html>
- Natural Resource Conservation Service (NRCS) – Web Soil Survey (WSS)
  - <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>

## **Part II. Environmental Review**

### **1. Environmental Impact Checklist:**

<b>PHYSICAL ENVIRONMENT</b>
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#### **WATER QUANTITY, QUALITY AND DISTRIBUTION**

**Water quantity** - Assess whether the source of supply is identified as a chronically or periodically dewatered stream by FWP. Assess whether the proposed use will worsen the already dewatered condition.

*Determination:* No significant impact identified.

Groundwater is not listed as chronically or periodically dewatered by FWP.

As determined by a search of FishMT conducted on November 16, 2020, the Yellowstone River is not listed as chronically or periodically dewatered by FWP. This change will not significantly impact Yellowstone conditions because the applicant has proposed to mitigate depletions to the Yellowstone River in months in which there is no legal availability.

**Water quality** - *Assess whether the stream is listed as water quality impaired or threatened by DEQ, and whether the proposed project will affect water quality.*

*Determination:* No significant impact identified.

According to a search of the DEQ CWAIC website conducted on November 16, 2020, the Yellowstone River between Reese Creek and Bridger Creek is listed as not fully supporting aquatic life due to concerns about alteration in streamside or littoral vegetative cover because of loss of riparian habitat and physical substrate habitation alterations because of site clearance (land development) and streambank modifications or destabilization. This project will not have a significant impact on the water quality because the proposed mitigation plan will offset surface water depletions to the Yellowstone River in months with no legal availability.

**Groundwater** - *Assess if the proposed project impacts ground water quality or supply. If this is a groundwater appropriation, assess if it could impact adjacent surface water flows.*

*Determination:* No significant impact identified.

The Department's hydrogeological modeling found that groundwater was physically and legally available in the amounts requested, so the proposed appropriation of groundwater should not significantly impact groundwater supply.

Groundwater or adjacent surface water quality is not likely to be affected by the project, as Haggerty Drilling, a licensed driller (license number WWC-353), has constructed the well in accordance with the rules of the Board of Water Well Contractors.

The project should not significantly affect surface water flows because the Department's modeling found that the proposed mitigation plan would offset depletions to surface water flows in months with no legal availability.

**DIVERSION WORKS** - *Assess whether the means of diversion, construction and operation of the appropriation works of the proposed project will impact any of the following: channel impacts, flow modifications, barriers, riparian areas, dams, well construction.*

*Determination:* No significant impact identified.

Groundwater will be diverted from the well with a pump. Haggerty Drilling, a licensed driller, has constructed the wells in accordance with the rules of the Board of Water Well Contractors. The diversion works should not create significant channel impacts, flow modifications, or barriers.

For 43B 193532-00 and 43B 193540-00, instead of being drunk by stock, water will simply be left instream and allowed to flow into the Yellowstone River, so the proposed project will not create significant channel impacts, flow modifications, or barriers. For 43B 193524-00, water will be applied to a wetland cell, and the same means of diversion will be used as under historical conditions, so the proposed project will not create significant channel impacts, flow modifications, or barriers.

#### **UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES**

***Endangered and threatened species*** - Assess whether the proposed project will impact any threatened or endangered fish, wildlife, plants or aquatic species or any “species of special concern,” or create a barrier to the migration or movement of fish or wildlife. For groundwater, assess whether the proposed project, including impacts on adjacent surface flows, would impact any threatened or endangered species or “species of special concern.”

*Determination:* No significant impact identified.

The Montana National Heritage Program’s website was queried on November 16, 2020. Results are summarized below.

- Animal Species of Concern: Wolverine, Canada Lynx, Merriam’s Shrew, Grizzly Bear, Great Blue Heron, Trumpeter Swan, Yellowstone Cutthroat Trout, Alberta Snowfly. Eight (8) total species.
- Animal Potential Species of Concern: None.
- Animal Special Status Species: Bald Eagle. One (1) total species.

The MTNHP website identified the following plant species

- Plant Species of Concern: Wedge-leaf Saltbrush. One (1) total species.
- Plant Potential Species of Concern: None.
- Plant Special Status Species: None.

The proposed project is to irrigate 14 acres of pasture with groundwater and to mitigate any adverse effects to nearby surface water sources. The project area is private land. The effects of diverting groundwater and changing the purpose of the surface water rights on any threatened or endangered species will not be significant.

***Wetlands*** - Consult and assess whether the apparent wetland is a functional wetland (according to COE definitions), and whether the wetland resource would be impacted.

*Determination:* No significant impact identified.

A November 16, 2020, search of the USFWS Wetlands Mapper identified several wetlands within the project area. The applicant’s mitigation plan includes the application of 2.88 AF of water to an existing wetland cell. While not directly a part of the proposed water right action, the applicant has participated in a wetland mitigation project with the Montana Department of Transportation since 2009. The wetlands occupy the historical place of use of some of the applicant’s water rights. The proposed project will be beneficial to existing wetlands.



**Ponds** - For ponds, consult and assess whether existing wildlife, waterfowl, or fisheries resources would be impacted.

*Determination:* Not applicable.

No ponds are involved in this project.

**GEOLOGY/SOIL QUALITY, STABILITY AND MOISTURE** - Assess whether there will be degradation of soil quality, alteration of soil stability, or moisture content. Assess whether the soils are heavy in salts that could cause saline seep.

*Determination:* No significant impact identified.

Diverting groundwater and changing the purpose of the surface water right to mitigation should not significantly affect soil characteristics. A November 16, 2020, search of the NRCS WSS site did not identify any saline seeps in the area.

**VEGETATION COVER, QUANTITY AND QUALITY/NOXIOUS WEEDS** - Assess impacts to existing vegetative cover. Assess whether the proposed project would result in the establishment or spread of noxious weeds.

*Determination:* No significant impact identified.

Diverting groundwater and changing the purpose of the surface water right to mitigation should not significantly affect vegetation cover. The applicant proposes to irrigate 14 acres of pasture with water from a well. For mitigation, the applicant proposes to apply water to existing wetlands.

**AIR QUALITY** - Assess whether there will be a deterioration of air quality or adverse effects on vegetation due to increased air pollutants.

*Determination:* No impact identified.

This project will not impact air quality.

**HISTORICAL AND ARCHEOLOGICAL SITES** - Assess whether there will be degradation of unique archeological or historical sites in the vicinity of the proposed project if it is on State or Federal Lands. If it is not on State or Federal Lands simply state NA-project not located on State or Federal Lands.

*Determination:* Not applicable.

The project is not located on State or Federal Lands. Furthermore, the Applicant made no mention of significant historical or archeological sites on the property.

**DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AND ENERGY** - *Assess any other impacts on environmental resources of land, water and energy not already addressed.*

*Determination:* No impact identified.

No other demands on environmental resources of land, water, and energy have been identified.

## **HUMAN ENVIRONMENT**

**LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS** - *Assess whether the proposed project is inconsistent with any locally adopted environmental plans and goals.*

*Determination:* No significant impact identified.

The Applicant's goals are to irrigate 14 acres of pasture with groundwater from their well and to offset adverse effects to potentially affected surface water sources. While the project area is not located within a basin closed to new appropriations of water, the Upper Yellowstone has periods with no legal availability, so new uses of water need to mitigate their adverse effects in those months. This proposal is consistent with the applicant's goal of irrigating their pasture while protecting current water users from adverse effects due to groundwater pumping.

**ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES** - *Assess whether the proposed project will impact access to or the quality of recreational and wilderness activities.*

*Determination:* No impact identified.

This change is located on private property and will not affect access to recreational activities or the quality of recreational and wilderness activities.

**HUMAN HEALTH** - *Assess whether the proposed project impacts on human health.*

*Determination:* No impact identified.

The proposed groundwater appropriation is for irrigation use and not for human consumption.

**PRIVATE PROPERTY** - *Assess whether there are any government regulatory impacts on private property rights.*

Yes\_\_\_ No X *If yes, analyze any alternatives considered that could reduce, minimize, or eliminate the regulation of private property rights.*

*Determination:* No impact identified.

The project does not impact government regulations on private property rights.

**OTHER HUMAN ENVIRONMENTAL ISSUES** - *For routine actions of limited environmental impact, the following may be addressed in a checklist fashion.*

*Impacts on:*

- (a) Cultural uniqueness and diversity? No impacts identified.
- (b) Local and state tax base and tax revenues? No significant impacts identified. Irrigated cropland is likely to produce higher yields than farming with no irrigation.
- (c) Existing land uses? No significant impacts identified. The applicant proposes to irrigate 14 acres and apply mitigation water to an existing wetland.
- (d) Quantity and distribution of employment? No impacts identified.
- (e) Distribution and density of population and housing? No impacts identified.
- (f) Demands for government services? No significant impacts identified.
- (g) Industrial and commercial activity? No impacts identified.
- (h) Utilities? No impacts identified.
- (i) Transportation? No impacts identified.
- (j) Safety? No impacts identified.
- (k) Other appropriate social and economic circumstances? No impacts identified.

**2. *Secondary and cumulative impacts on the physical environment and human population:***

Secondary Impacts: No secondary impacts have been identified.

Cumulative Impacts: No cumulative impacts have been identified.

**3. *Describe any mitigation/stipulation measures:*** None.

**4. *Description and analysis of reasonable alternatives to the proposed action, including the no action alternative, if an alternative is reasonably available and prudent to consider:*** No reasonable alternatives have been identified. The Upper Yellowstone River Basin has periods of no legal availability. Under Montana law, the applicant must mitigate any adverse effects to other water users. The no-action alternative would be to not irrigate the 14 acres with the well and to not change the purpose of the other water rights to mitigation.



### *PART III. Conclusion*

1. ***Preferred Alternative:*** The preferred alternative is to grant the permit and change applications if the Applicant can prove that the criteria in §85-2-311 and §85-2-402, MCA, are met.
2. ***Comments and Responses:*** None.
3. ***Finding:***  
Yes\_\_\_ No X *Based on the significance criteria evaluated in this EA, is an EIS required?*

*If an EIS is not required, explain why the EA is the appropriate level of analysis for this proposed action:* The EA is the appropriate level of analysis because the proposed project is to irrigate 14 acres of pasture with groundwater from a well and to change the purpose of existing water rights to mitigation in order to offset surface water depletions. The applicant proposes to offset depletions in months in which there is no legal availability in the Yellowstone River. None of the identified impacts for any of the alternatives is significant as defined in ARM 36.2.524. No significant adverse effects are anticipated.

*Name of person(s) responsible for preparation of EA:*

*Name:* Brent Zundel

*Title:* Civil Engineering Specialist

*Date:* November 16, 2020